



16 John Smith			
Pump 1	Pump 2	Pump 3	
<b>Rate</b> 22.5 mL/h <b>Volume Remaining</b> 249.0 mL <b>A</b> Dopamine 5mcg/kg/min <b>B</b> Nitroglycerin 20mcg/min <b>C</b> Maintenance 5.0 35.6 <input type="checkbox"/> Setup	<b>Rate</b> 18.0 mL/h <b>Volume Remaining</b> 243.7 mL <b>D</b> Dobutamine 5mcg/kg/min 249.0 <b>E</b> Heparin 1000units/hr <b>F</b> Time Remaining 13:54 h:min <input type="button" value="Close"/>	<b>Rate</b> 10.0 mL/h <b>Volume Remaining</b> 135.4 mL 	
<b>Pump: Air</b>			
			125
			80
			80
			112
<b>Pump: Air</b>			80
			80
			60
			80 97

FIG. 72

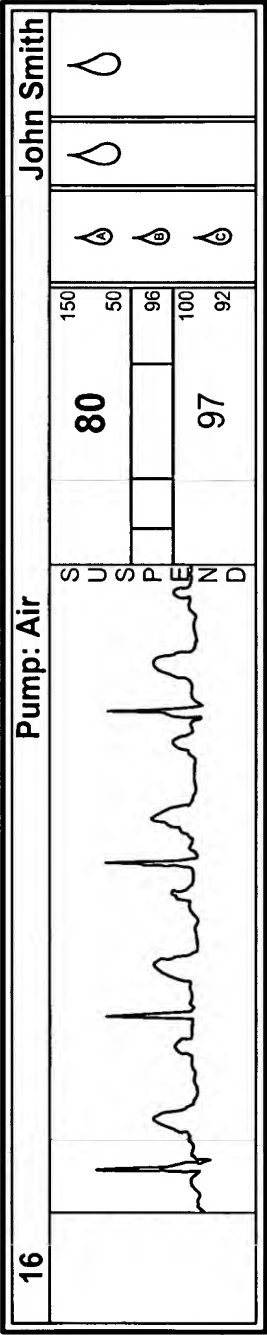


FIG. 73

16		John Smith	
Pump 1	Pump 2	Pump 3	
<div> <div>Rate mL/h</div> <div>Volume Remaining mL</div> </div>	<div> <div>Rate mL/h</div> <div>Volume Remaining mL</div> </div>	<div> <div>Rate mL/h</div> <div>Volume Remaining mL</div> </div>	
<div> <div> <div>A</div> <div>22.5</div> </div> <div> <div>Dopamine</div> <div>5mcg/kg/min</div> </div> <div> <div>249.0</div> </div> </div>	<div> <div> <div></div> <div>18.0</div> </div> <div> <div>Dobutamine</div> <div>5mcg/kg/min</div> </div> <div> <div>243.7</div> </div> </div>	<div> <div> <div></div> <div>10.0</div> </div> <div> <div>Heparin</div> <div>1000units/hr</div> </div> <div> <div>135.4</div> </div> </div>	
<div> <div> <div>B</div> <div>6.0</div> </div> <div> <div>Nitroglycerin</div> <div>20mcg/min</div> </div> <div> <div>75.0</div> </div> </div>	<div> <div>Time Remaining</div> <div>13:54 h:min</div> </div>	<div> <div>Time Remaining</div> <div>13:54 h:min</div> </div>	
<div> <div> <div>C</div> <div>5.0</div> </div> <div> <div>Maintenance</div> </div> <div> <div>35.6</div> </div> </div>			
<div>Setup</div>		<div>Close</div>	

FIG. 74






16		John Smith			
Pump 1	Pump 2	ALARM	Pump 3		
<div>Rate mL/h</div> <div>Volume Remaining mL</div>	<div>Rate mL/h</div> <div>Volume Remaining mL</div>		<div>Rate mL/h</div> <div>Volume Remaining mL</div>		
<div></div> <div>22.5</div> <div>Dopamine</div> <div>5mcg/kg/min</div>	<div></div> <div>18.0</div> <div>Dobutamine</div> <div>5mcg/kg/min</div>		<div></div> <div>10.0</div> <div>Heparin</div> <div>1000units/hr</div>	<div>135.4</div>	<div>13:54 h:min</div>
<div></div> <div>6.0</div> <div>Nitroglycerin</div> <div>20mcg/min</div>	<div>75.0</div>				
<div></div> <div>5.0</div> <div>Maintenance</div>	<div>35.6</div>				
<div>Setup</div>		<div>Close</div>			
Pump: Air					

FIG. 75

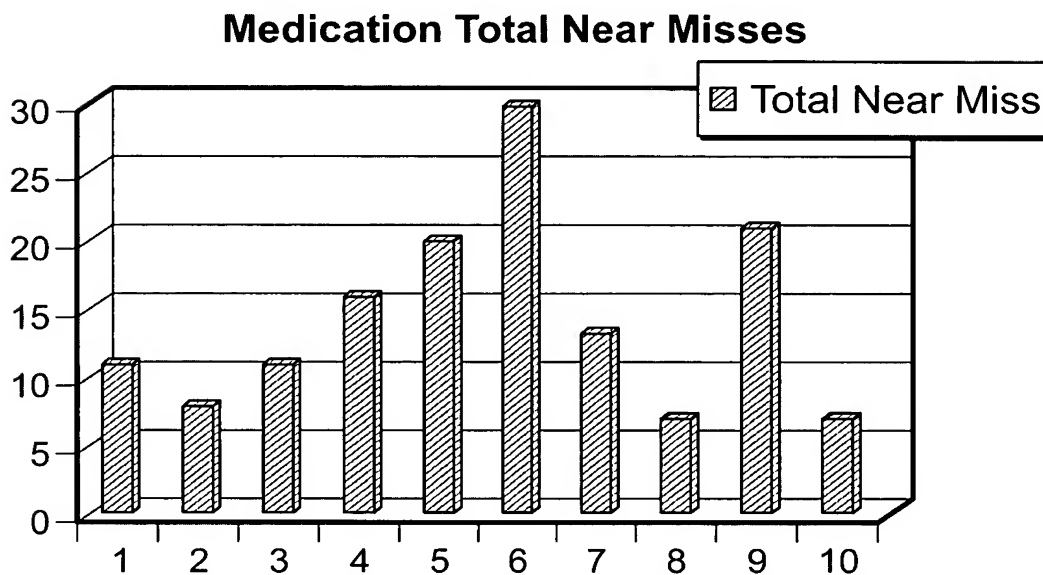
	Total Administrations	Total Wrong	Near Miss						Med Error
			# Wrong Drug	# Wrong Patient	# Wrong Time	# Wrong Route	# Wrong Dose	# Wrong Dose	
All Units	Total	750	198	41	25	77	6	20	29
	Infusion	350	66	20	0	20	6	20	0
	Non-Infusion	400	107	21	0	57	0	0	29
BCPS Demo Unit	Total	450	102	24	12	48	3	20	7
	Infusion	200	36	11	0	10	3	12	0
	Non-Infusion	250	58	13	0	38	0	0	7
BPCS Demo Unit2	Total	300	71	17	13	29	3	0	22
	Infusion	150	21	5	0	6	2	8	0
	Non-Infusion	150	49	8	0	19	0	0	22

Fig. 76

	Total Administrations	Total Wrong	Near Miss						Med Error
			# Wrong Drug	# Wrong Patient	# Wrong Time	# Wrong Route	# Wrong Dose	# Wrong Dose	
Total	450	106	24	12	48	3	12	7	
Infusion	200	36	11	0	10	3	12	0	
Non-Infusion	250	58	13	0	38	0	0	7	

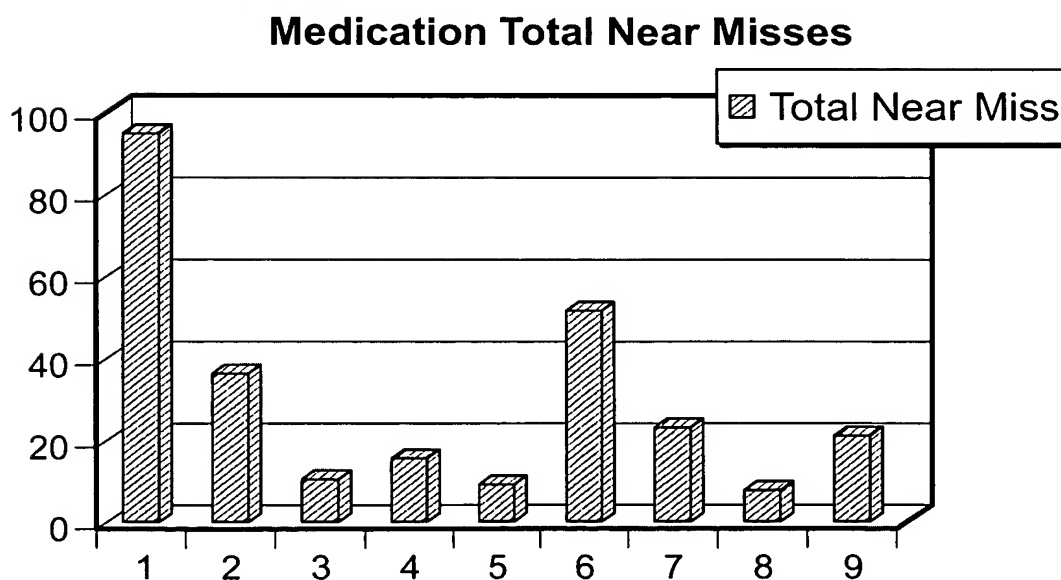
Fig. 77

**Near Miss Summary by Med All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 78**

**Near Miss Unit Summary by Med BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 80**

All Units	Total Administrations	Total Wrong	Near Miss				Med Error
			# Wrong Drug	# Wrong Time	# Wrong Route	# Wrong Dose	
<b>Total</b>	<b>750</b>	<b>173</b>	<b>41</b>	<b>77</b>	<b>6</b>	<b>20</b>	<b>29</b>
<b>Infusions</b>	<b>350</b>	<b>66</b>	<b>20</b>	<b>20</b>	<b>6</b>	<b>20</b>	<b>0</b>
1. Bel's Morphine Sulfat Inj 2 MG/ML	25	11	4	4	1	2	0
2. Continuous Titration	70	8	3	2	0	3	0
3. Multiple Vitamin Inj.	95	11	1	3	2	5	0
4. Tapering	60	16	7	3	0	6	0
5. TPN	100	20	5	8	3	4	0
<b>Non-Infusions</b>	<b>400</b>	<b>107</b>	<b>21</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>29</b>
6. Acetaminophen 500	125	48	5	25	0	0	18
7. Lorazepam Tab 1 MG	100	19	3	10	0	0	6
8. Hydrocortisone Cream 2.5%	50	9	4	3	0	0	2
9. Insulin Regular (Human) Inj 100 U/ML	100	21	6	15	0	0	0
10. Xylol Liq.	25	10	3	4	0	0	3
<b>Total</b>	<b>450</b>	<b>102</b>	<b>24</b>	<b>48</b>	<b>3</b>	<b>20</b>	<b>7</b>
<b>Infusions</b>	<b>200</b>	<b>36</b>	<b>11</b>	<b>10</b>	<b>3</b>	<b>12</b>	<b>0</b>
Multiple Vitamin Inj	95	11	1	3	2	5	0
Tapering	60	16	7	3	0	6	0
TPN	45	9	3	4	1	1	0
<b>Non-Infusions</b>	<b>250</b>	<b>58</b>	<b>13</b>	<b>38</b>	<b>0</b>	<b>0</b>	<b>7</b>
Acetaminophen 500	100	28	3	20	0	0	5
Hydrocortisone Cream 2.5%	50	9	4	3	0	0	2
Insulin Regular (Human) Inj 100 U/ML	100	21	6	15	0	0	0
<b>Total</b>	<b>300</b>	<b>71</b>	<b>17</b>	<b>29</b>	<b>3</b>	<b>0</b>	<b>22</b>
<b>Infusions</b>	<b>150</b>	<b>21</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>8</b>	<b>0</b>
Bel's Morphine Sulfate Inj 2 MG/ML	25	11	4	4	1	2	0
Continuous Titration	70	8	3	2	0	3	0
TPN	55	11	2	4	2	3	0
<b>Non-Infusions</b>	<b>150</b>	<b>49</b>	<b>8</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>22</b>

**FIG. 79**

	Total Administrations	Total Wrong	Near Miss				Med Error
			# Wrong Drug	# Wrong Time	# Wrong Route	# Wrong Rate	# Wrong Dose
1. Total	450	102	24	48	3	20	7
2. Infusions	200	36	11	10	3	12	0
3. Multiple Vitamin Inj.	95	11	1	3	2	5	0
4. Tapering	60	16	7	3	0	6	0
5. TPN	45	9	3	4	1	1	0
6. Non-Infusions	250	58	13	38	0	0	7
7. Acetaminophen 500	100	28	3	20	0	0	5
8. Hydrocortisone Cream 2.5%	50	9	4	3	0	0	2
9. Insulin Regular (Human) Inj 100 U/ML	100	21	6	15	0	0	0

**FIG. 81**



## Scan Errors

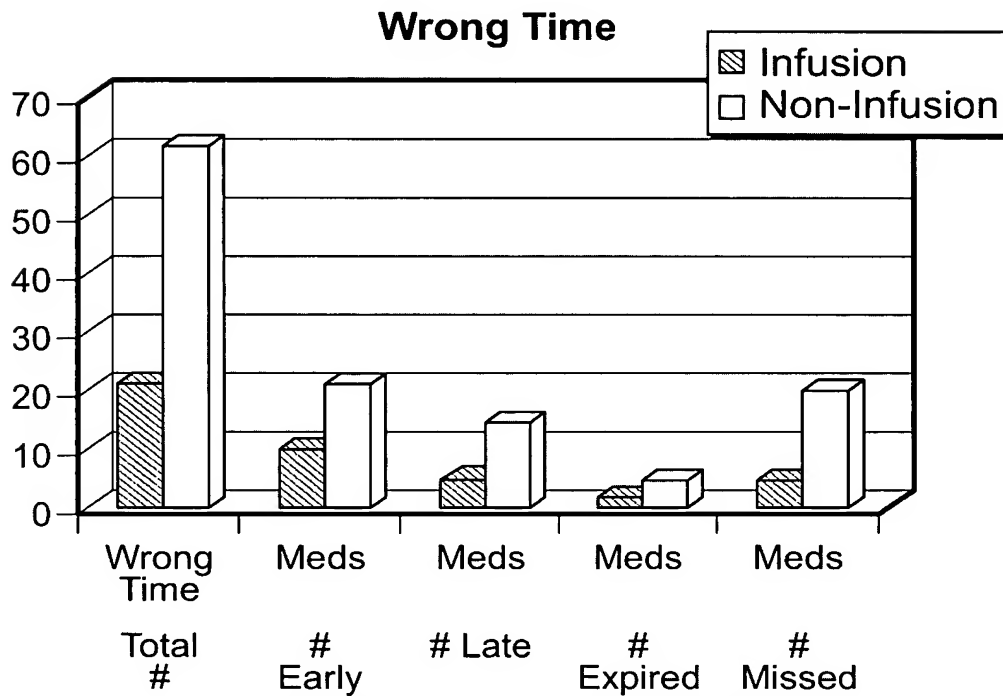
Group = Nurse – Hand Held (Hand Held)				QA Test Hospital	
Personnel: Andr., Andr Nurse – CPOE (CPOE) Nurse – Hand Held ( Hand Held) Nurse – Inpatient (Inpatient) Nurse – Lifeline (Lifeline)					
Time	System/Screen	Scan Error (Type/Error)	Expected	Actual	
06-Nov-2003 (Thursday)					
15:37	Autros Hand Held /Handheld/eMar/EnterDrugQuantity.aspx	Item Scan ID Scanned barcode is invalid or inactive	102 Captopril Tab 50 MG CAPOTEN	106 Acetaminophen Soln 100 MG/ML ACETAMINOPHEN	
24-Nov-2003 (Monday)					
13:31	Autros Hand Held /Handheld/Shift/ShiftSelectPatients.aspx	Patient Locator Scanned Barcode is invalid or inactive.		q	
28-Nov-2003 (Friday)					
15:33	Autros Hand Held /Handheld/MixOnFloor/MixOnFloor/Gettle	Item Scan ID Scanned barcode is invalid or inactive.	106 Acetaminophen Soln 100 MG/ML ACETAMINOPHEN	409 Cefazolin Sodium for Inj 10 GM LF CEFAZOLIN SODIUM	
28-Nov-2003 (Friday)					
15:36	Autros Hand Held /Handheld/eMar/ScanIVBagForAdmin.as	Item Scan ID Scanned barcode is invalid or inactive.	8800006940	8800006940	
15:39	Autros Hand Held /Handheld/eMar/ScanIVBagForAdmin.as	Item Scan ID Scanned barcode is invalid or inactive.	8800006941	88000006941	
15:41	Autros Hand Held /Handheld/StopInfusion/StoppedInfusion	Item Scan ID Scanned barcode is invalid or inactive.	One of IV Bag IDs	88000006941	
05-Jan-2004 (Monday)					
11:19	Autros Hand Held /Handheld/Shift/ShiftSelectPatients.aspx	Patient Locator Scanned barcode is invalid or inactive.		qa998	
21-Jan-2004 (Wednesday)					
15:17	Autros Hand Held /Handheld/eMar/ScanIVBagForAdmin.as	Item Scan ID Scanned barcode is invalid or inactive.	8800011408	8800011168	
03-Feb-2004 (Tuesday)					
16:20	Autros Hand Held /Handheld/eMar/EnterDrugQuantity.aspx	Item Scan ID Scanned barcode is invalid or inactive.	11 Alprazolam Tab 2 MG(Bel) 102 Captopril Tab 50 MG ALPRAZOLAM (Bel) CAPOTEN		
16:20	Autros Hand Held /Handheld/eMar/EnterDrugQuantity.aspx	Item Scan ID Scanned barcode is invalid or inactive.	11 Alprazolam Tab 2 MG(Bel) 9 ALPRAZOLAM (Bel)		
					Number of Errors: 10

FIG. 82

Selection Criteria	
<input checked="" type="checkbox"/> OK <input type="checkbox"/> Cancel	
<div>Created Date</div> <div>Start: 15 MAR 2004 10:58 <input type="button" value="ON"/> <input type="button" value="OFF"/></div> <div>End: 15 MAR 2004 10:58 <input type="button" value="ON"/> <input type="button" value="OFF"/></div>	<div>Screen</div> <div>Click listbox for values</div>
	<div>Barcode Type</div> <div>Click listbox for values</div>
<div>User Group</div> <div>ARS Client (ARS Client) Charge Nurse (Hand Held) Database Administrator (Autros Maintenance) HL7Engine (HL7 Interface) Nurse - CPOE (CPOE) Nurse - Hand Held (Hand Held) Nurse - Inpatient (Inpatient) Nurse Lifeline (Lifeline) Pharmacist - CPOE (CPOE) Pharmacist - Hand Held (Hand Held) Pharmacist - Inpatient (Inpatient) Pharmacist - Lifeline (Lifeline) Physician - CPOE (CPOE)</div>	<div>User</div> <div></div>

FIG. 83

**Near Miss Wrong Time Summary All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**Total Administrations: 546**

**FIG. 84**

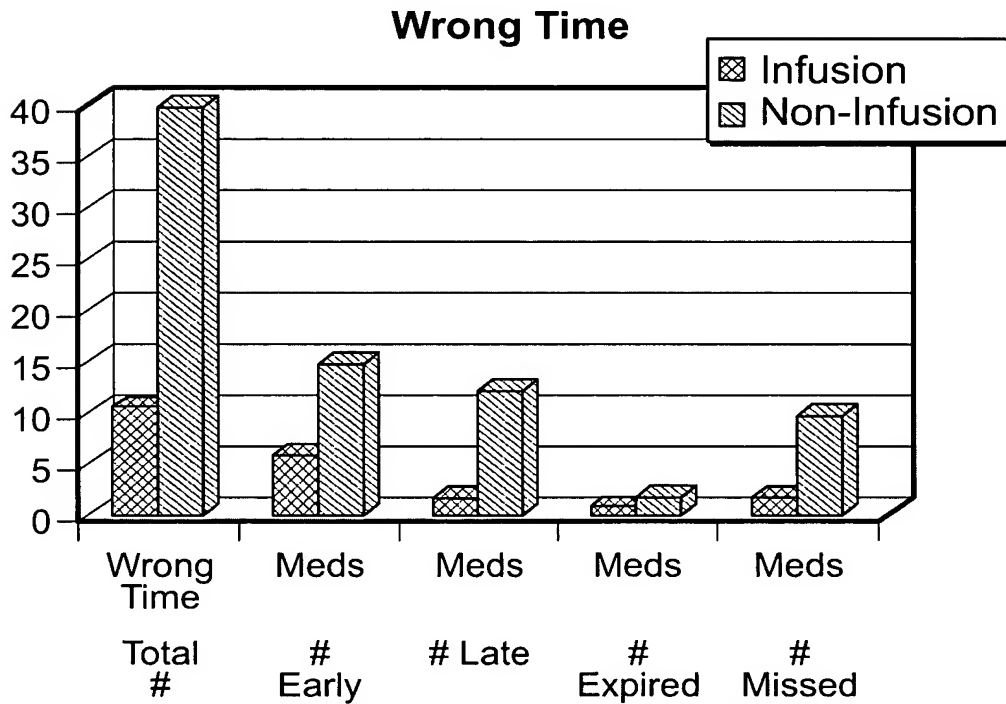
		Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
All Units	Total	84	32	20	7	25
	Infusion	22	10	5	2	5
	Non-Infusion	62	22	15	5	20
BPCS Demo Unit	Total	51	21	15	3	12
	Infusion	11	6	2	1	2
	Non-Infusion	40	15	13	2	10
BPCS Demo Unit2	Total	33	11	5	4	13
	Infusion	11	4	3	1	3
	Non-Infusion	22	7	2	3	10

**FIG. 85**

	Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
Total	51	21	15	3	12
Infusion	11	6	2	1	2
Non-Infusion	40	15	13	2	10

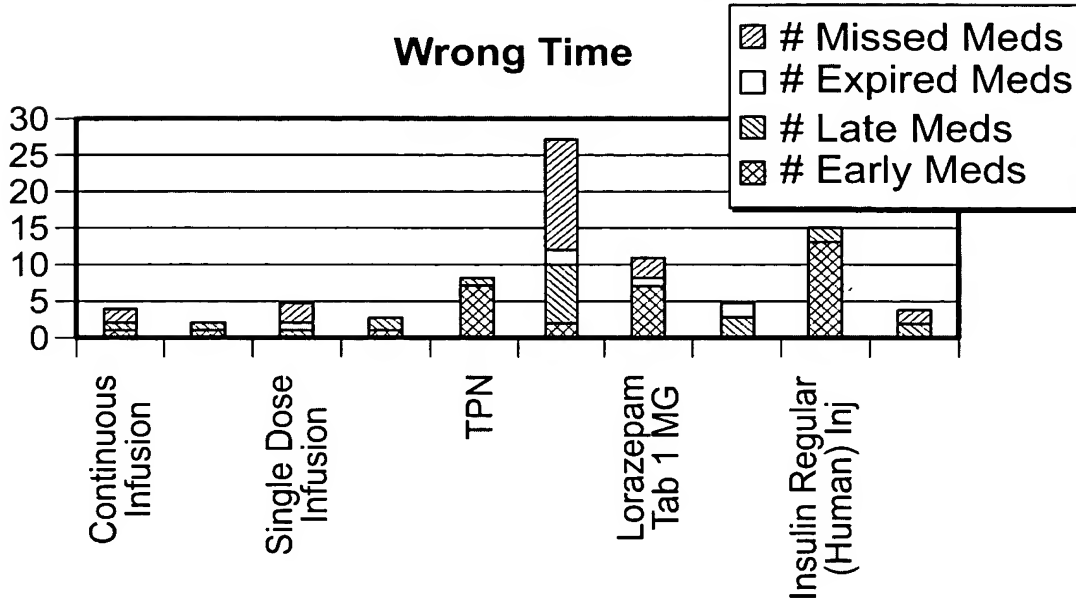
**FIG. 87**

**Near Miss Wrong Time Unit Summary BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 86**

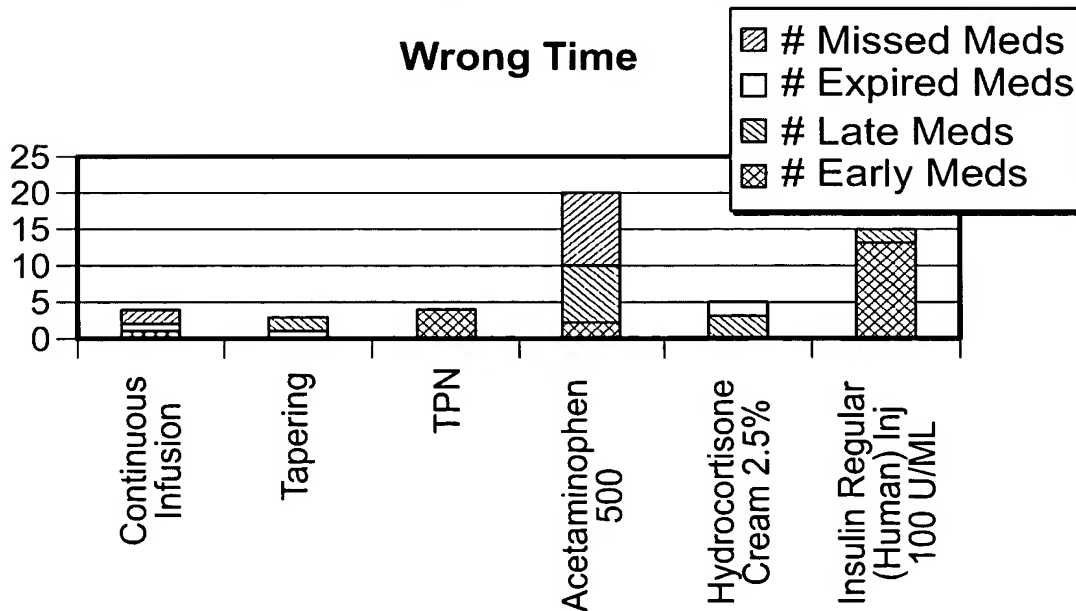
**Wrong Time by Med All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**Total Administrations: 546**

**FIG. 88**

**Wrong Time by Med BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 90**

All Units		Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
All Units	Total	84	32	20	7	25
	Infusions	22	10	5	2	5
	Continuous Infusion	4	1	0	1	2
	Continuous Titration	2	1	1	0	0
	Single Dose Infusion	5	0	1	1	3
	Tapering	3	1	2	0	0
	TPN	8	7	1	0	0
	Non-Infusions	62	22	15	5	20
	Acetaminophen 500	27	2	8	2	15
	Lorazepam Tab 1 MG	11	7	0	1	3
	Hydrocortisone Cream 2.5%	5	0	3	2	0
	Insulin Regular (Human) Inj 100 U/ML	15	13	2	0	0
	Xylol Liq	4	0	2	0	2
	Total	51	21	15	3	12
BPCS Demo Unit	Infusions	11	6	2	1	2
	Continuous Infusion	4	1	0	1	2
	Tapering	3	1	2	0	0
	TPN	4	4	0	0	0
	Non-Infusions	40	15	13	2	10
	Acetaminophen 500	20	2	8	0	10
	Hydrocortisone Cream 2.5%	5	0	3	2	0
	Insulin Regular (Human) Inj 100 U/ML	15	13	2	0	0
	Total	33	11	5	4	13
	Infusions	11	4	3	1	3
	Continuous Titration	2	1	1	0	0
	Single Dose Infusion	5	0	1	1	3
	TPN	4	3	1	0	0
	Non-Infusions	22	7	2	3	10
BPCS Demo Unit2	Acetaminophen 500	7	0	0	2	5
	Lorazepam Tab 1 MG	11	7	0	1	3
	Xylol Liq	4	0	2	0	2
	Total	4	0	2	0	2
	Infusions	11	4	3	1	3

FIG. 89

	Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
<b>Total</b>	51	21	15	3	12
<b>Infusions</b>	11	6	2	1	2
Continuous Infusion	4	1	0	1	2
Tapering	3	1	2	0	0
TPN	4	4	0	0	0
<b>Non-Infusions</b>	40	15	13	2	10
Acetaminophen 500	20	2	8	0	10
Hydrocortisone Cream 2.5%	5	0	3	2	0
Insulin Regular (Human) Inj 100 U/ML	15	13	2	0	0

**FIG. 91**



# Wrong Time with Reason Code Report

BPCS Demo Unit

Reason	Patient	RX	Order Admin Time	Admin Time	Nurse
<b>Early Medication Administrations</b>					
Acetaminophen As per MD	FTLOC1	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 10:59	03-Mar-2004 09:22:14	NURSEB
	ETLOC1	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	04-Mar-2004 14:15	04-Mar-2004 13:05	CHNURSE
<b>Total Early</b>					<b>2</b>
<b>Late Medication Administrations</b>					
Acetaminophen Patient unavailable at scheduled time	pid04	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 10:59	03-Mar-2004 11:22:14	NURSEA
	LZ001	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	04-Mar-2004 14:15	04-Mar-2004 15:35	CHNURSE
Multiple Vitamin Inj Patient unavailable at scheduled time	FTLOC1	Continuous Infusion *Multiple Vitamin Inj** 20 ML WR13_Water for IV Injection 2 L = 2000 ML Route: Intravenous Flow Rate: 250ML/H Estimated Administration Period: 8 Hours	03-Mar-2004 10:59	03-Mar-2004 11:22:14	NURSEB
<b>Total Late</b>					<b>3</b>
<b>Expired Medication Administrations</b>					
Acetaminophen Still Required	newp2	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 10:59	03-Mar-2004 12:45-14	FNURSE
<b>Total Expired</b>					<b>1</b>

FIG. 92

Missed Medication Administrations			
Acetaminophen			
newp2	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 09:45	Total Missed 5
FTLOC1	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 13:00	
LZ001	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 17:45	
Multiple Vitamin Inj			
ETLOC1	Continuous Infusion Simp Continuous Infusion *Multiple Vitamin Inj** 100 ML Route: Intravenous Flow Rate: 50ML/H Line: Lne3 Site: tail Estimated Administration Period: 2 Hours	03-Mar-2004 11:00	
ETLOC1	Continuous Infusion Simp Continuous Infusion *Multiple Vitamin Inj** 100 ML Route: Intravenous Flow Rate: 50ML/H Line: Lne3 Site: tail Estimated Administration Period: 2 Hours	03-Mar-2004 13:00	

FIG. 93

### Infusion Flow Rate History

Run Period: from 8/14/2003 12:00:00AM to 3/2/2004 12:00:00AM

Unit		Occurrence Date	Pump Mode	Pump Status	Rate (mL/H)
AUTROS DEMO UNIT					
Patient Name		AUTROS.Pt1			
Nurse		Tech, Cori			
RX 197780		Continuous Infusion			
		*Multiple Vitamin Inj**			
		10 ML			
		Route: Injection Flow Rate: 10ML/H			
		Estimated Administration Period: 1 Hour			
751697		1/14/2004 1:10:58PM	Primary	Stopped	50.00
		1/14/2004 2:50:49PM	Primary	Stopped	0.00
		1/14/2004 2:51:04PM	Primary	Stopped	20.00
RX 199997		Continuous Infusion			
		*Multiple Vitamin Inj**			
		9999 ML			
		Route: Injection Flow Rate: 1200ML/H			
		Estimated Administration Period: 5 Hours			
		1/23/2004 2:08:40PM	Primary	Standby mode	100.00
		1/23/2004 2:08:49PM	Primary	Stopped	100.00
		1/23/2004 2:08:58PM	Primary	Stopped	52.00
		1/23/2004 2:11:36PM	Primary	Standby mode	52.00
		1/23/2004 2:32:30PM	Primary	Stopped	52.00
		1/23/2004 2:32:51PM	Primary	Stopped	555.00
		1/23/2004 2:34:06PM	Primary	Standby mode	555.00

FIG. 94

**Colleague Infusion Rate and Mode Comparison Summary**

All Units

Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

	Total	# Matches	Rate			Mode
			# Resolved Mismatches	# Accepted Mismatches	# No Comparisons	# Mismatches
Total Infusions for All Units	114	62	20	20	32	28
Primary	62	35	13	14	13	11
Piggyback	52	27	7	6	19	17
BPCS Demo Unit Total Infusions	55	30	12	7	18	16
Primary	35	20	7	5	10	4
Piggyback	20	10	5	2	8	12
BPCS Demo Unit2 Total Infusions	59	32	8	13	14	12
Primary	27	15	6	9	3	7
Piggyback	32	17	2	4	11	5

**FIG. 95**

**Colleague Infusion Rate and Mode Comparison Unit Summary**

BPCS Demo Unit

Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

	Total	# Matches	Rate			Mode
			# Resolved Mismatches	# Accepted Mismatches	# No Comparisons	# Mismatches
Total Infusions	55	30	12	7	18	16
Primary	35	20	7	5	10	4
Piggyback	20	10	5	2	8	12

**FIG. 96**

### Infusion Flow Rate Comparison

Run Period: From 8/24/2003 12:00:00AM to 3/11/2004 12:00:00AM

Total		1. No Match	2. Match	3. No Comparison
Total		35	5	2
*AUTROS	Unit	25	5	2
DEMO UNIT*	Primary	35	5	2
				28

**FIG. 97**

### Colleague Infusion Rate Comparison Summary by Med

All Units

Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

	Total Infusions	# Matches	Rate		
			# Resolved Mismatches	# Accepted Mismatches	# No Comparisons
<b>All Units</b>	<b>Total</b>	<b>114</b>	<b>20</b>	<b>20</b>	<b>32</b>
	Bel's Morphine Sulfate Inj 2MG/ML	14	1	3	4
	Continuous Titration	15	3	2	9
	Multi Vitamin Inj	17	4	4	7
	Tapering	42	7	3	9
	TPN	26	5	8	3
	<b>Total</b>	<b>55</b>	<b>12</b>	<b>7</b>	<b>18</b>
<b>BPCS Demo Unit</b>	<b>Total</b>	<b>14</b>	<b>1</b>	<b>3</b>	<b>4</b>
	Bel's Morphine Sulfate Inj 2MG/ML	42	7	3	9
	Tapering	18	2	4	2
	TPN	59	8	13	14
<b>BPCS Demo Unit2</b>	<b>Total</b>	<b>15</b>	<b>3</b>	<b>2</b>	<b>9</b>
	Continuous Titration	17	4	4	7
	Multi Vitamin Inj	20	3	4	1
	TPN				

**FIG. 98**

Colleague Infusion Rate Comparison Summary by Med

BCPS Demo Unit

Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

	Total Infusions	Rate			
		# Matches	# Resolved Mismatches	# Accepted Mismatches	# No Comparisons
Total	55	30	12	7	18
Bel's Morphine Sulfate Inj 2MG/ML	14	7	1	3	4
Tapering	42	30	7	3	9
TPN	18	10	2	4	2

FIG. 99

### Infusion Flow Rate Comparison

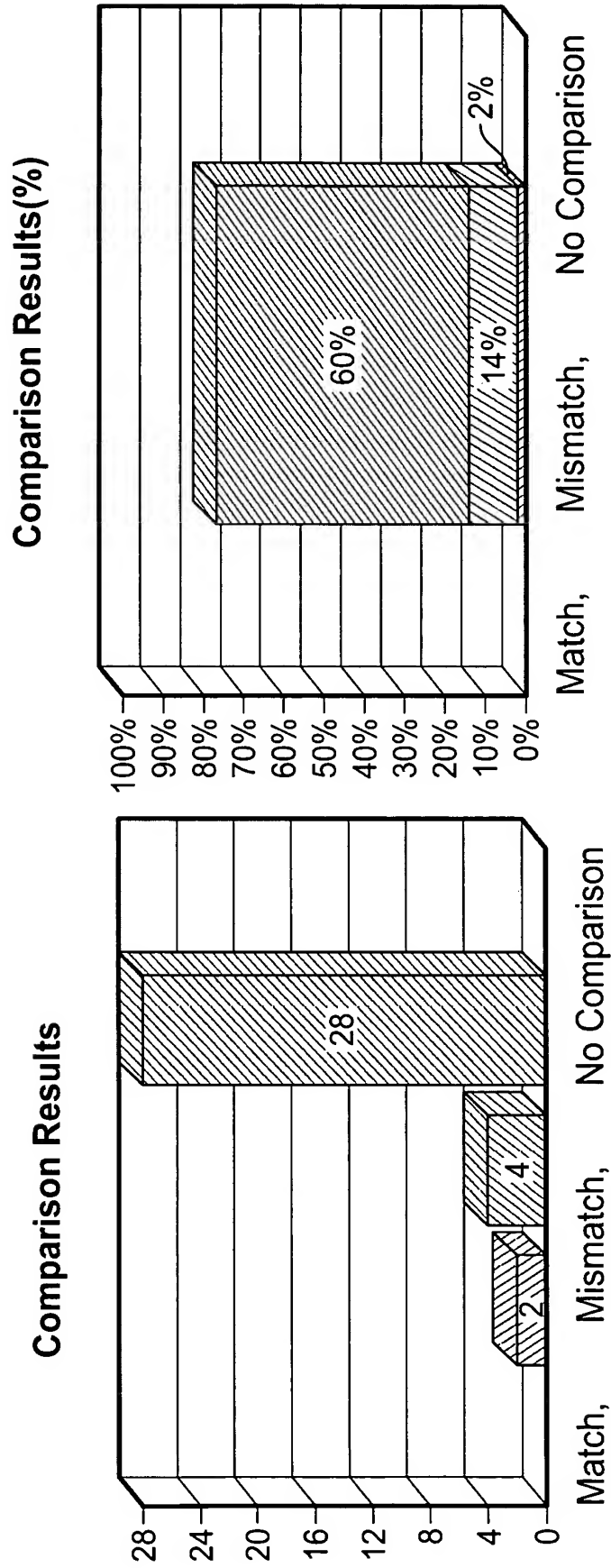
Run Period: From 8/24/2003 12:00:00AM to 3/11/2004 12:00:00AM

		Total	1. No Match	2. Match	3. No Comparison
<b>Total</b>		<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>
<b>*AUTROS DEMO UNIT*</b>	<b>Unit</b>	<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>
	<b>Primary</b>	<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>

			Total	1. No Match	2. Match	3. No Comparison
<b>Total</b>			<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>
<b>*AUTROS DEMO UNIT*</b>	<b>Unit Total:</b>		35	5	2	28
	Continuous Infusion *Multiple Vitamin Inj** 10 ML Route: Injection Flow	<b>Total</b>	15	5	1	9
		<b>Primary</b>	15	5	1	9
	Continuous Infusion *Multiple Vitamin Inj** 10 ML Route: Intramuscular	<b>Total</b>	3	0	0	3
		<b>Primary</b>	3	0	0	3
	Continuous Infusion *Multiple Vitamin Inj** 9999 ML Route: Injection Flow	<b>Total</b>	7	0	0	7
		<b>Primary</b>	7	0	0	7
	Continuous Infusion Morphine Sulfate Inj 15	<b>Total</b>	5	0	1	4
		<b>Primary</b>	5	0	1	4
	Continuous Infusion Morphine Sulfate Inj 15 MG/ML 45 MG = 9 ML	<b>Total</b>	5	0	1	4
		<b>Primary</b>	5	0	1	4
	Continuous Infusion Morphine Sulfate Inj 15 MG/ML *short 10 G = 0.667 ML	<b>Total</b>	2	0	0	2
		<b>Primary</b>	2	0	0	2
	Continuous Infusion Morphine Sulfate Inj 15 MG/ML *short 10 G = 0.667 ML	<b>Total</b>	3	0	0	3
		<b>Primary</b>	3	0	0	3

**FIG. 100**

**Infusion Flow Rate Comparison**  
**Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM**



**FIG. 101**



Unit	Pump Mode	Rx Rate	Pump Rate	Comparison Result	Date/Time
<b>*AUTROS DEMO UNIT*</b> Nurse: Nurse, Mary Patient: Palm, Father Rx 206180					
781396	Primary		Continuous Infusion *Multiple Vitamin Inj** 10 ML Route: Intramuscular Flow Rate: 10 ML/H Estimated Administration Period: 1 Hour	No Comparison	2/10/2004 10:57:23AM
RX 206180 Continuous Infusion *Multiple Vitamin Inj** 10 ML Route: Intramuscular Flow Rate: 10 ML/H Estimated Administration Period: 1 Hour					
781396	Primary		Continuous Infusion *Multiple Vitamin Inj** 10 ML Route: Intramuscular Flow Rate: 10 ML/H Estimated Administration Period: 1 Hour	No Comparison	2/10/2004 11:41:02AM
RX 206180 Continuous Infusion *Multiple Vitamin Inj** 10 ML Route: Intramuscular Flow Rate: 10 ML/H Estimated Administration Period: 1 Hour					
781397	Primary		Continuous Infusion *Multiple Vitamin Inj** 10 ML Route: Intramuscular Flow Rate: 10 ML/H Estimated Administration Period: 1 Hour	No Comparison	2/10/2004 11:58:06AM
<b>Patient: AUTROS, Pti</b> RX 205182 Continuous Infusion Morphine Sulfate Inj 15 MG/ML *short 10 GM = 0.667 ML To be Administered Over 10 Minutes Route: Injection Estimated Flow Rate: 4 ML/H					
776327	Primary			No Comparison	2/6/2004 10:55:19AM
776327	Primary			No Comparison	2/6/2004 10:55:22AM
Nurse: Tech, Cori <b>Patient: AUTROS, Pti</b>					

**FIG. 102**

Colleague Guardian Dose/Rate Range Out of Limit Summary All Units  
Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

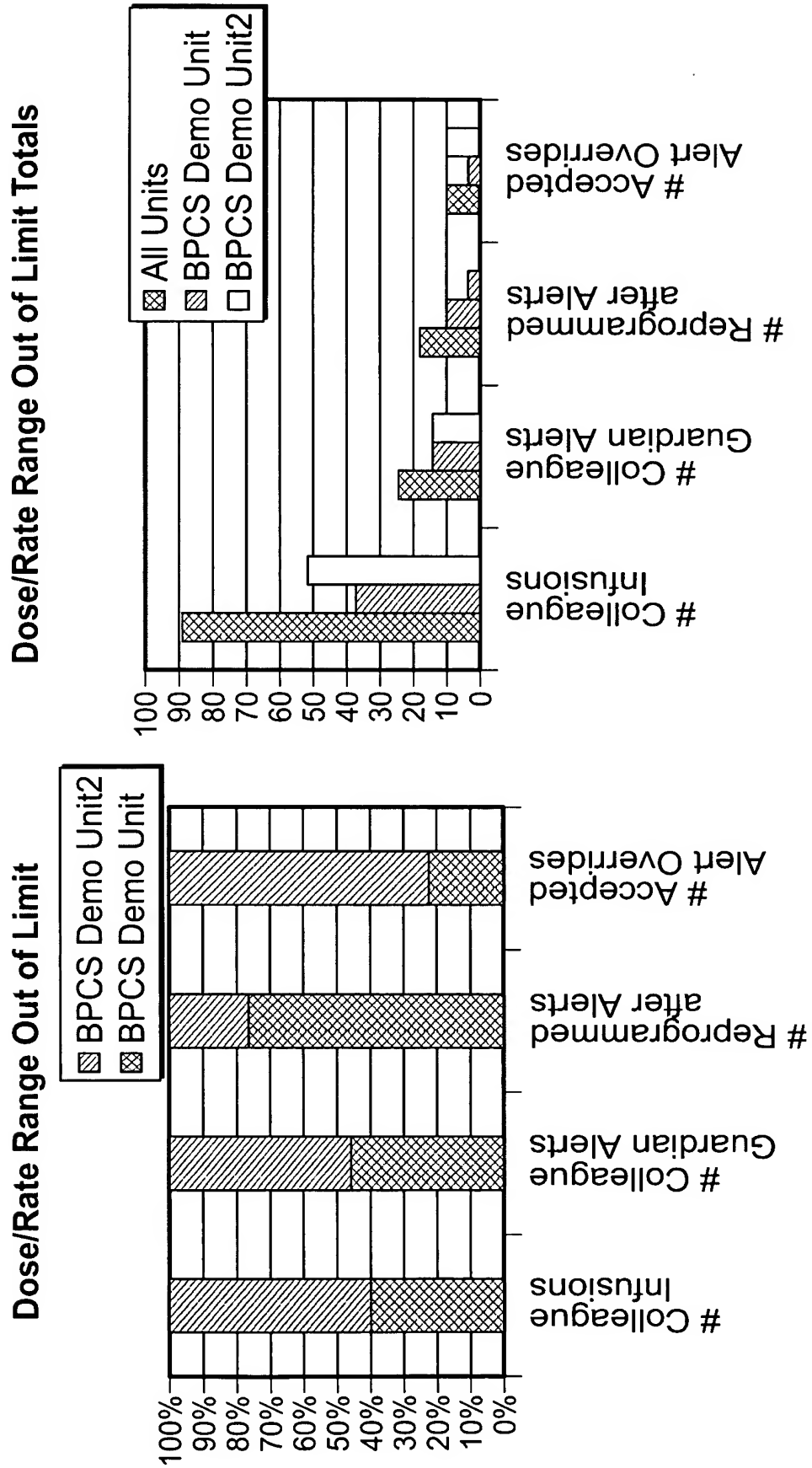


FIG. 103

	# Colleague Infusions	# Colleague Guardian Alerts	# Reprogrammed after Alerts	# Accepted Alert Overrides
All Units	89	25	15	10
BPCS Demo Unit	35	12	9	3
BPCS Demo Unit2	54	13	3	10

FIG. 104

	# Colleague Infusions	# Colleague Guardian Alerts	# Reprogrammed after Alert	# Accepted Alert Overrides
Total	12	9	3	3

FIG. 106

Colleague Guardian Dose/Rate Range Out of Limit Unit Summary BPCS Demo Unit  
Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

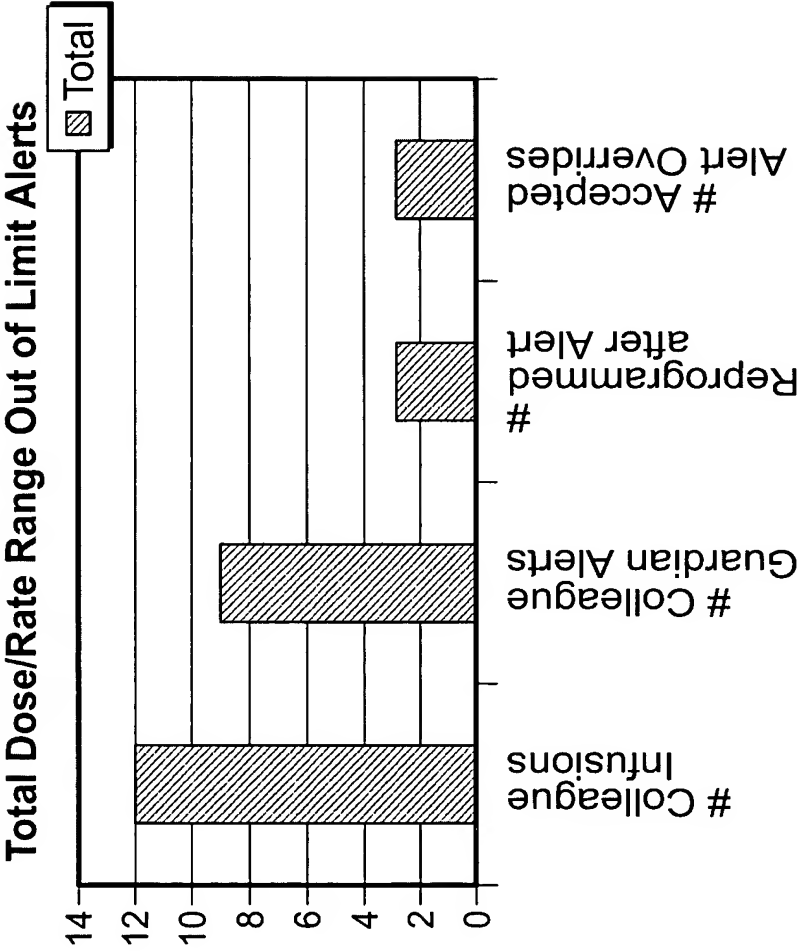


FIG. 105

Colleague Guardian Dose/Rate Range Out of Limit Unit Summary BPCS Demo Unit  
Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

Dose/Rate Range Out of Limits by Med  
for BPCS Demo Unit

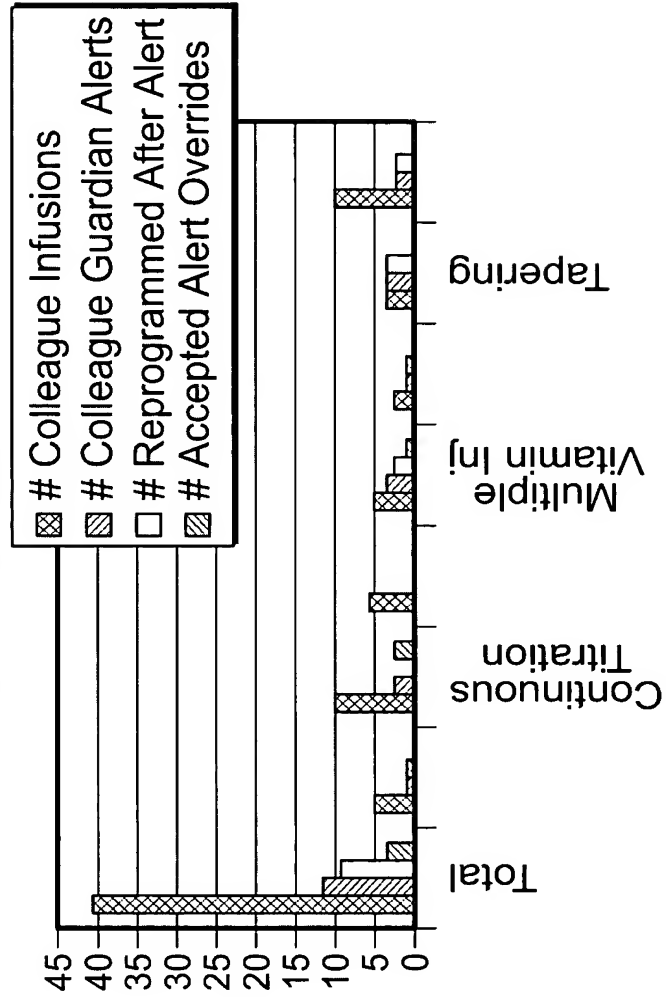


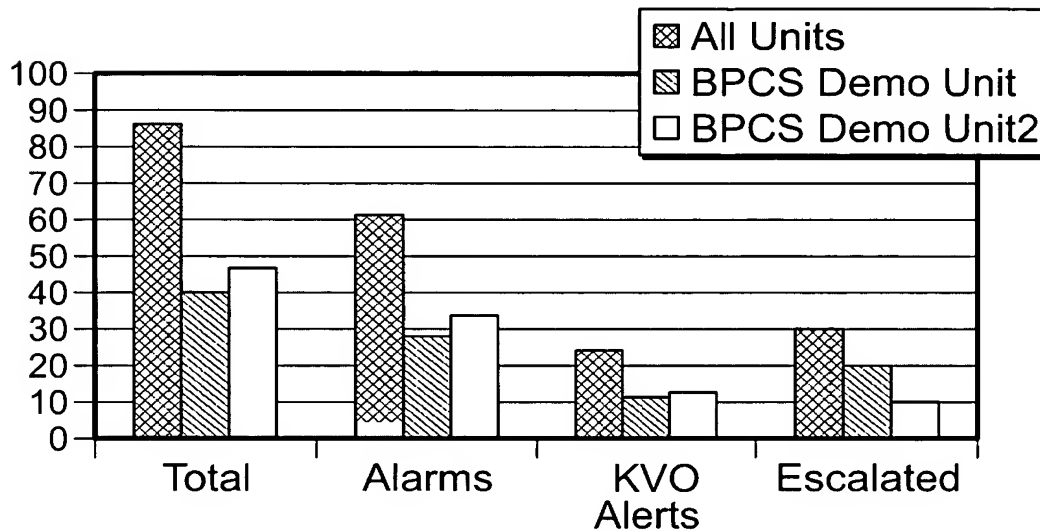
FIG. 107

Pharmacy Label	Colleague Guardian Label	# Colleague Infusions	# Colleague Guardian Alerts	# Reprogrammed after Alert	# Accepted Alert Overrides
<b>Total</b>		41	12	9	3
Bel's Morphine Sulfate Inj 2 MG/ML	MORPHINE	5	1	1	0
Continuous Titration	DOBUTAMN	10	2	0	2
Dopamine HCl Inj 40MG/ML		6	0	0	0
Multiple Vitamin Inj	ANTIBIOT	5	3	2	1
Tapering	DOPAMINE	2	1	1	0
Tapering	FLUORUOR	3	3	3	0
TPN	TPN	10	2	2	0

FIG. 108

**Colleague Alarms/Alerts Summary All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

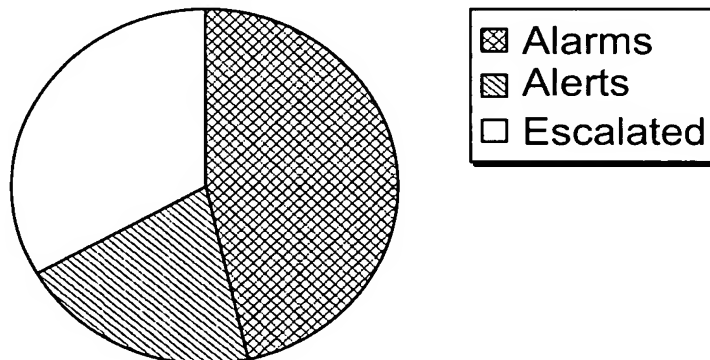
**Total Alarms & KVO Alerts**



**FIG. 109**

**Colleague Alarms/Alerts Summary BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

**Total Alarms/Alerts**  
**for BPCS Demo Unit**



**FIG. 111**

	Total Infusions	Alarms/Alerts Total	# Alarms	# KVO Alerts	# Escalated	*Avg Time to Resolve (mm:ss)
All Units	50	87	62	25	30	2:23
BPCS Demo Unit	30	40	28	12	20	2:15
BPCS Demo Unit2	20	47	34	13	10	2:30

FIG. 110

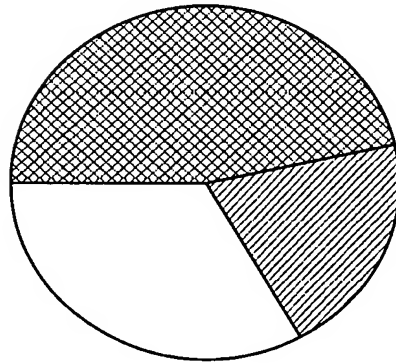
Total	# Alarms	# KVO Alerts	# Escalated	*Avg Time to Resolve (mm:ss)
40	28	12	20	2:15

FIG. 112



Colleague Alarms/Alerts Summary by Alarm Condition BPCS Demo Unit  
Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

Total Alarms/Alerts  
for BPCS Demo Unit



Total Infusions: 30

FIG. 113A

Total Alarms/Alert by Condition  
for BPCS Demo Unit

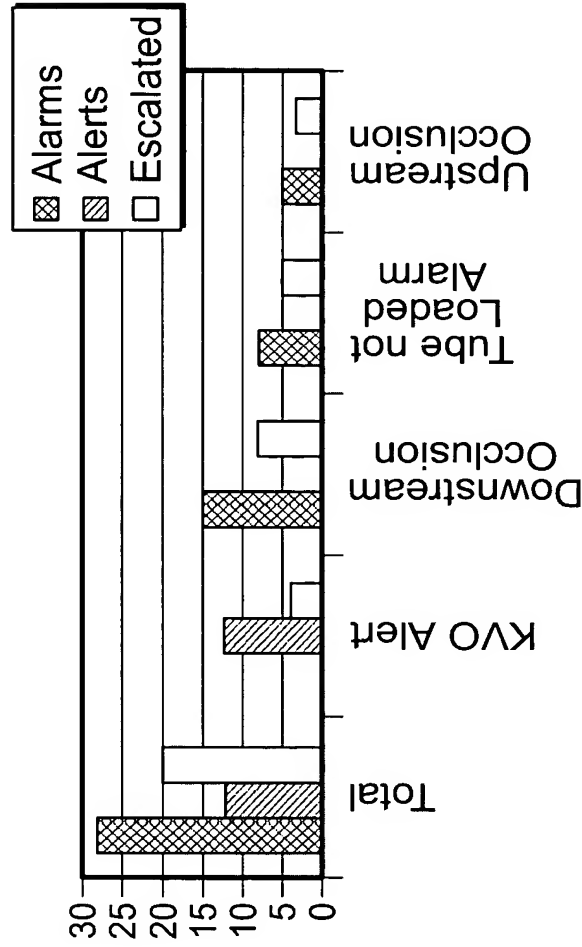


FIG. 113B

Total Infusions: 30

Alarm Condition	Total Alarms/Alerts	# Alarms	# KVO Alerts	# Escalated	Avg Time to Resolve (mm:ss)
<b>Total</b>	<b>40</b>	<b>28</b>	<b>12</b>	<b>20</b>	<b>2:15</b>
KVO Alert	12	0	12	4	0:45
Downstream Occlusion	15	15	0	8	3:45
Tube not Loaded Alarm	8	8	0	5	1:10
Upstream Occlusion	5	5	0	3	1:35

FIG. 114

# History of Pump Alarms KVO Alerts, and Resolutions (by Alarm/KVO Alert Code) Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM

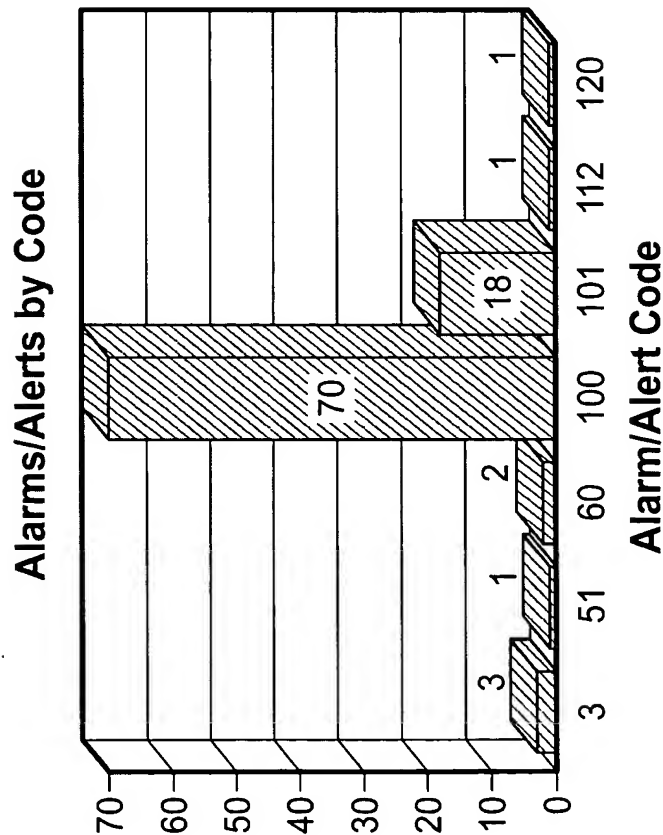


FIG. 115A

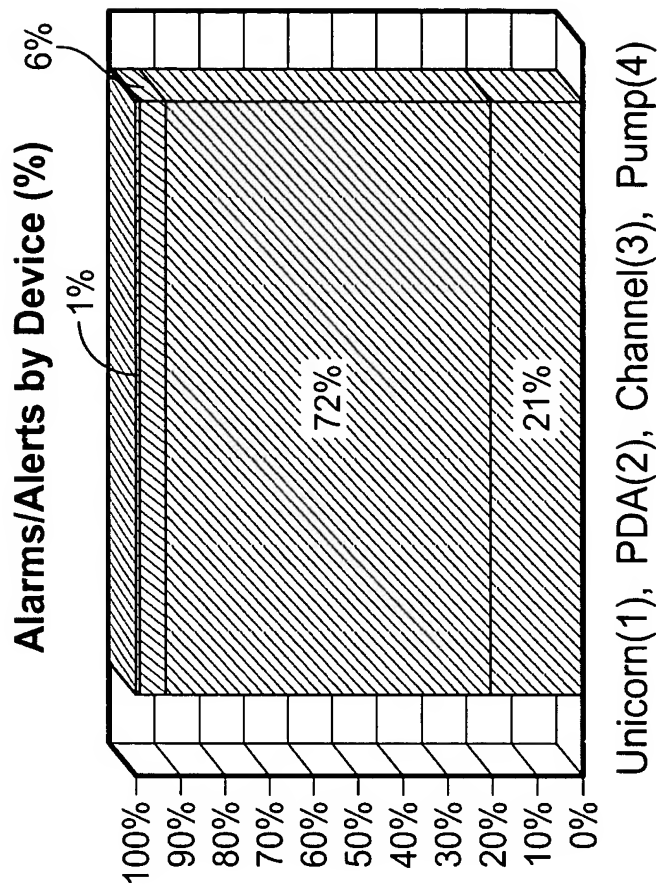


FIG. 115B

Code	Alarm Description
3	Channel Stopped Alert
51	Tube Not Loaded Alarm
60	Downstream Occlusion Alarm
100	PDA Loss of Communication
101	Unicorn Loss of Communication
112	Unicorn is initiating power-down
120	Pump Communication Lost Alarm

**FIG. 116**

<b>Alarm, KVO Alert 3</b>				<b>Channel Stopped Alert</b>	
Unit: *AUTROS DEMO UNIT*					
Patient Name AUTROS, Ptl					
Nurse: Nurse, Mary					
RX		Intermittent Infusion Morphine Sulfate Inj 15 MG/ML 15 MG = 1 ML Route: Injection Flow Rate: 1.5 ML/H Estimated Administration Period: 40 Minutes Every 1 Hour			
1	A00000085	Channel	Primary	9/26/2003	
RX		Continuous Infusion *Multiple Vitamin Inj** 9999 ML Route: Injection Flow Rate: 1200 ML/H Estimated Administration Period: 5 Hours			
1	A00000047	Channel	Primary	1/23/2004 2:32:33PM	1/23/2004 2:32:50PM
1	A00000047	Channel	Primary	1/23/2004 2:33:48PM	
<b>Total for Alarm, KVO Alert# 3</b>		<b>Channel Stopped Alert</b>		<b>3</b>	
<b>Alarm, KVO Alert 51</b>					
Unit: *AUTROS DEMO UNIT*					
Patient Name AUTROS, Ptl					
Nurse: Tech, Cori					

FIG. 117

### History of Alarms/Alerts and Resolutions (by Alarm/Alert)

Run Period: from 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM

Esc. Level	Source	Device	Mode	Occurrence Time	Cleared Time	Silenced Time
		RX	Continuous Infusion *Multiple Vitamin Inj** 9999 ML			
0	A00000047	Channel	Primary	1/23/2004 2:32:51PM	1/23/2004 2:32:52 PM	
Total for Alarm, KVO Alert# 51						
Tube Not Loaded Alarm						
1						

FIG. 118

Code	Alarm Description
3	Channel Stopped Alert
51	Tube Not Loaded Alarm
60	Downstream Occlusion Alarm
100	PDA Loss of Communication
101	Unicorn Loss of Communication
112	Unicorn is initiating power-down
120	Pump Communication Lost Alarm

FIG. 120

History of Pump Alarms KVO Alerts, and Resolutions (by Cleared/Silence Time)  
Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM

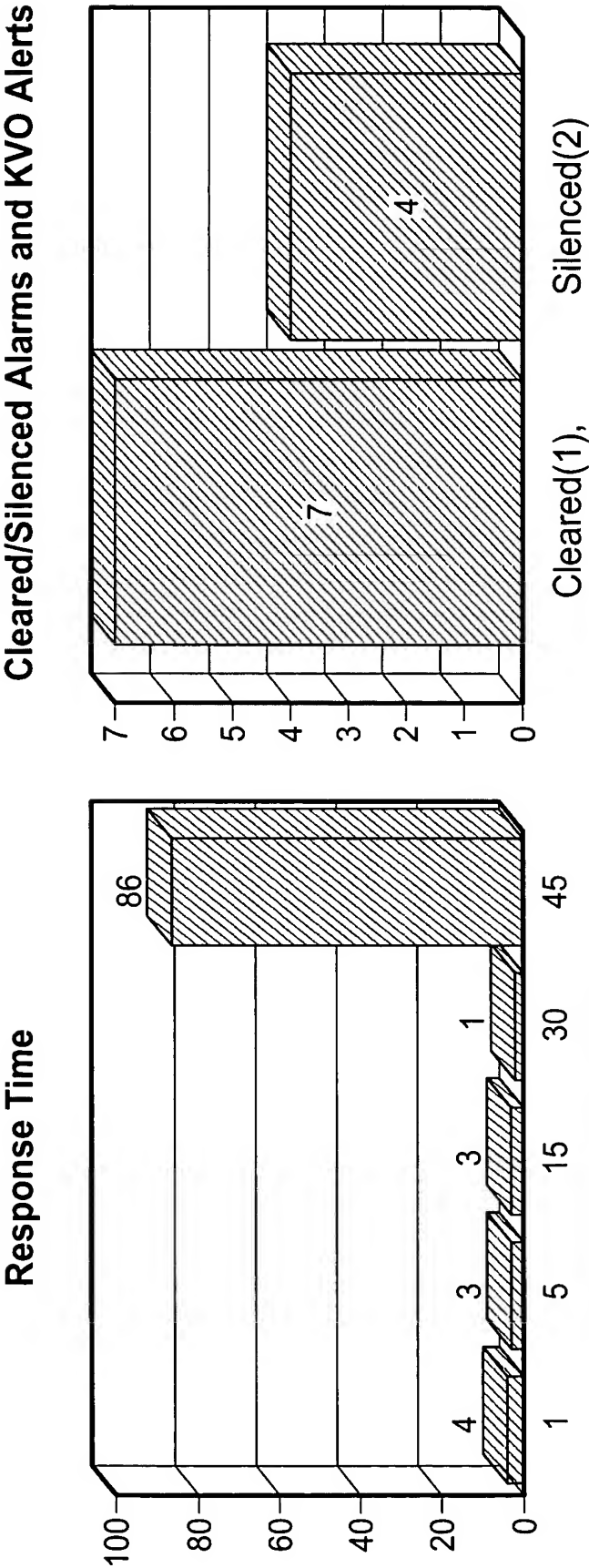


FIG. 119B

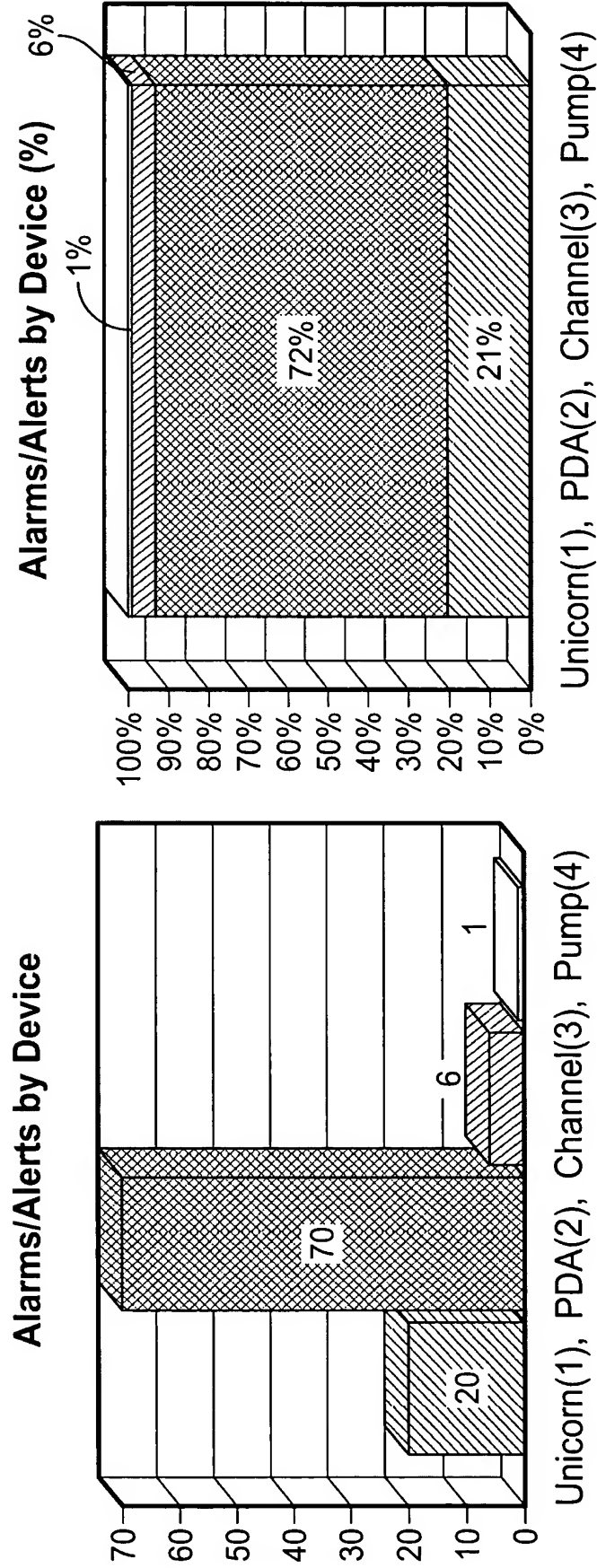
FIG. 119A

Esc. Level	Source	Device	Mode	Occurrence	Cleared	Silenced
Clearance/Silenced time up to: 1(min.)						
Unit: *AUTROS DEMO UNIT*						
Patient Name AUTROS, Ptl						
Nurse: Nurse, Mary						
RX Intermittent Infusion Morphine Sulfate Inj 15 MG/ML 15 MG = 1 ML Route: Injection Flow Rate: 1.5 ML/H Estimated Administration Period: 40 Minutes Every 1 Hour						
0	A00000085	Channel	Primary	9/26/2003 1:09:44PM		9/26/2003 1:09:50PM
1	A00000085	Channel	Primary	9/26/2003 12:17:51PM	9/26/2003 12:17:55PM	
RX Continuous Infusion *Multiple Vitamin Inj** 9999 ML Route: Injection Flow Rate: 1200 ML/H Estimated Administration Period: 5 Hours						
0	A00000047	Channel	Primary	1/23/2004 2:32:51PM	1/23/2004 2:32:52PM	
1	A00000047	Channel	Primary	1/23/2004 2:32:33PM		1/23/2004 2:32:50PM
Total Clearance/Silenced time up to: 1(min.)						4
Clearance/Silenced time up to: 5 (min.)						
Unit:						
Patient Name						
Nurse:						
RX						
1	UnicomPE102	Unicom		2/12/2004 12:46:04PM	2/12/2004 12:48:04PM	
1	UnicomPE103	Unicom		2/12/2004 12:46:12PM	2/12/2004 12:50:12PM	
1	UnicomPE216	Unicom		2/12/2004 12:46:21PM		2/12/2004 12:50:21PM
Total Clearance/Silenced time up to: 5(min.)						3

FIG. 121



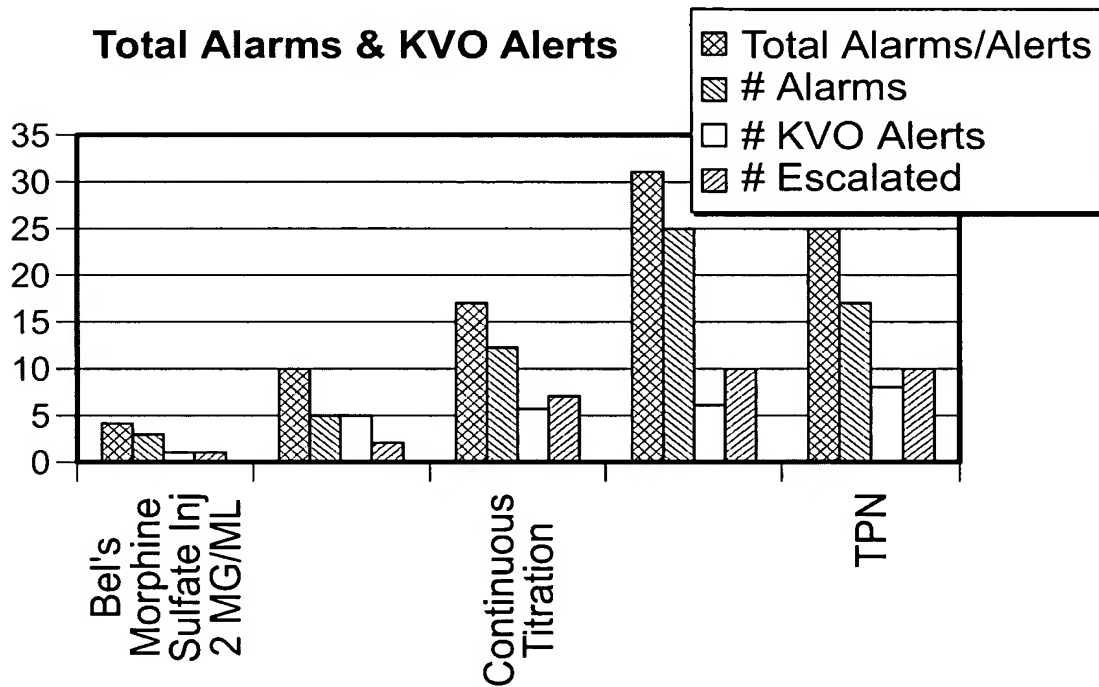
History of Pump Alarms KVO Alerts, and Resolutions (by Unit)  
Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM



Esc. Level	Source	Device	Mode	Occurrence Time	Cleared Time	Silenced Time
Unit: <b>*AUTROS DEMO UNIT*</b>						
Patient Name <b>AUTROS, Pt1</b>						
Nurse: <b>Nurse, Mary</b>						
RX Intermittent Infusion Morphine Sulfate Inj 15 MG/ML 15 MG = 1 ML Route: Injection Flow Rate: 1.5 ML/H Estimated Administration Period: 40 Minutes Every 1 Hour						
<b>Alarm/Alert # 60 Downstream Occlusion Alarm</b>						
0	A00000085	Channel	Primary	9/26/2003 1:09:44PM		9/26/2003 1:09:50PM
<b>Alarm/Alert # 3 Channel Stopped Alert</b>						
1	A00000085	Channel	Primary	9/26/2003		
<b>Alarm/Alert # 60 Downstream Occlusion Alarm</b>						
1	A00000085	Channel	Primary	9/26/2003 12:17:51PM	9/26/2003 12:17:55PM	
RX Continuous Infusion *Multiple Vitamin Inj** 9999 ML Route: Injection Flow Rate: 1200 ML/H Estimated Administration Period: 5 Hours						
<b>Alarm/Alert # 51 Tube Not Loaded Alarm</b>						
0	A00000047	Channel	Primary	1/23/2004 2:32:51PM	1/23/2004 2:32:52PM	
<b>Alarm/Alert # 3 Channel Stopped Alert</b>						
1	A00000047	Channel	Primary	1/23/2004 2:33:48PM		
<b>Alarm/Alert # 3 Channel Stopped Alert</b>						
1	A00000047	Channel	Primary	1/23/2004 2:32:33PM		1/23/2004 2:32:50PM
Unit:						
Patient Name						
Nurse:						
RX						
<b>Alarm/Alert # 101 Unicorn Loss of Communication</b>						
1	UNICORN1	Unicorn		8/28/2003		
<b>Alarm/Alert # 101 Unicorn Loss of Communication</b>						
1	UN	Unicorn		8/29/2003		
<b>Alarm/Alert # 101 Unicorn Loss of Communication</b>						
1	Unicorn1	Unicorn		2/12/2004 12:45:36PM		2/12/2004 12:50:36 PM
<b>Alarm/Alert # 101 Unicorn Loss of Communication</b>						
1	Unicorn1	Unicorn		2/12/2004 12:45:36PM		

**FIG. 123**

**Colleague Alarms/Alerts Summary by Med All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

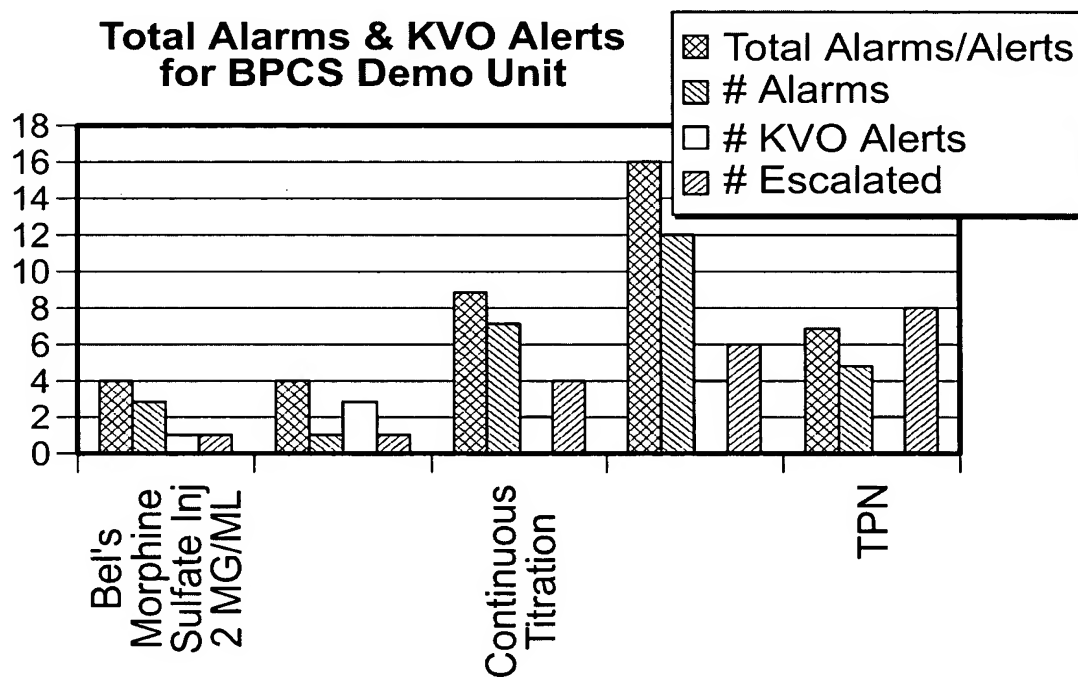


**FIG. 124**

		Total Infusions	Total Alarms/ Alerts	# Alarms	# KVO Alerts	# Escalated	Avg Time to Resolve (mm:ss)
All Units	Total	50	87	62	25	30	3:22
	Bel's Morphine Sulfate Inj 2 MG/ML	3	4	3	1	1	1:15
	Multiple Vitamin Inj	10	10	5	5	2	2:30
	Continuous Titration	12	17	12	5	7	1:50
	Tapering	10	31	25	6	10	2:45
	TPN	15	25	17	8	10	2:13
	Total	30	40	28	12	20	4:15
BPCS Demo Unit	Bel's Morphine Sulfate Inj 2 MG/ML	3	4	3	1	1	1:15
	Multiple Vitamin Inj	7	4	1	3	1	1:20
	Continuous Titration	10	9	7	2	4	2:45
	Tapering	5	16	12	4	6	1:30
	TPN	5	7	5	2	8	1:10
	Total	20	47	34	13	10	2:30
	Multiple Vitamin Inj	3	6	4	2	1	3:10
BPCS Demo Unit2	Continuous Titration	2	8	5	3	3	1:12
	Tapering	5	15	13	2	4	2:15
	TPN	10	18	12	6	2	1:30

FIG. 125

**Colleague Alarms/Alerts Summary by Med BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 126**

	Total Infusions	Total Alarms/ Alerts	# Alarms	# KVO Alerts	# Escalated	Avg Time to Resolve (mm:ss)
<b>Total</b>	<b>30</b>	<b>40</b>	<b>28</b>	<b>12</b>	<b>20</b>	<b>4:15</b>
Bel's Morphine Sulfate Inj2 MG/ML	3	4	3	1	1	1:15
Multiple Vitamin Inj	7	4	1	3	1	1:20
Continuous Titration	10	9	7	2	4	2:45
Tapering	5	16	12	4	6	1:30
TPN	5	7	5	2	8	1:10

FIG. 127

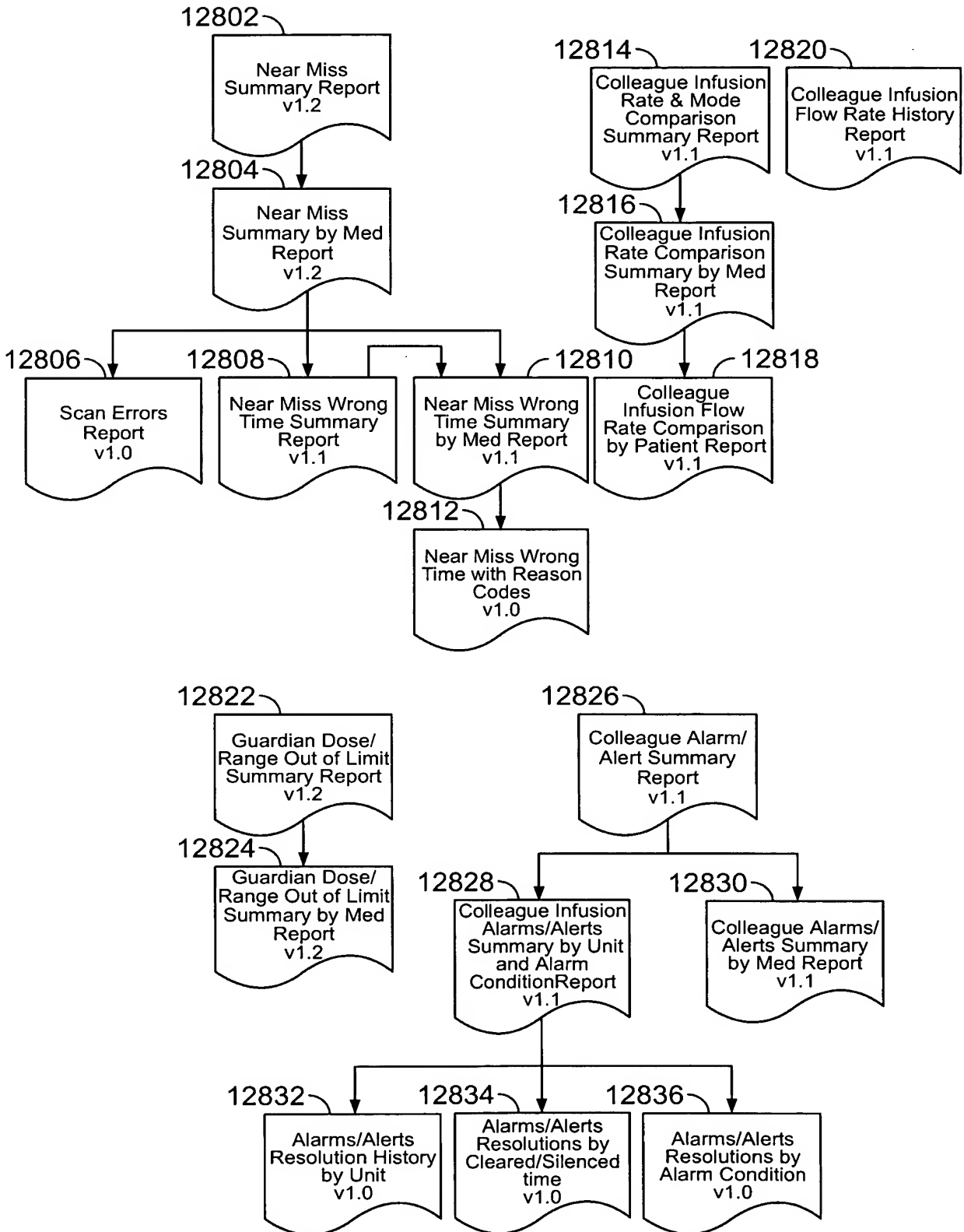


FIG. 128